

APPENDIX A
GATHER PLAN FOR CY 2006 FOR THE RAWLINS FIELD OFFICE.

BACKGROUND

This plan was developed pursuant to the practices and procedures detailed in the Rawlins Field Office Wild Horse Management Handbook (Handbook) and the Wyoming Supplemental Program Guidance for Wild Horse Management. The Handbook and guidance are included in this plan by reference. They describe the operating practices and mitigating measures that constitute, among other things, Wyoming BLM's Standard Operating Procedures for removing stray and excess wild horses from the public lands and contiguous areas of private land. This plan covers the area north of interstate Highway 80 and west of US HWY 287 within the Rawlins Field Office (RFO). Outside of this area and still within the RFO, there is one HMA, the Adobe Town HMA and a large area known as I 80 South where stray horses sometimes are found. No regular, planned activities are scheduled in this part of the RFO during the 2006 CY. Any activities in those areas would be conducted under emergency or non-HMA procedures and not subject to the procedures outlined in this plan. This site-specific gather plan describes how a specific Population Management Action (PMA) will be conducted. Specifically, this plan will guide the capture, evaluation, removal from or return to the range, transportation, and associated handling of approximately 531 adult horses and 163 colts from the area. The total population in the area prior to the action is estimated to be 595 adult horses and 178 colts. Of these, it is estimated that approximately 90% of those in I 80 N, 95% of those in the Lost Creek HMA and 85% of those in the Stewart Creek HMA will be captured for a total of 531 adult horses and 163 colts. Of the captured horses, 356 adults and all the colts will be selected for removal and 175 horses one year of age and older will be returned to the range within the Lost Creek and Stewart Creek HMAs, resulting in populations of approximately 7 adults in I 80 North, 100 horses one year of age and older, and 5 colts in the Lost Creek HMA and 125 horses one year and older and twenty colts in the Stewart Creek HMA. These populations will be equivalent to the lower limit established for the Appropriate Management Level in the Stewart Creek HMA and the recommended interim level for the Lost Creek HMA and will insure the continued genetic integrity of those herds. The animals selected for return to the range will be of varied ages and sexes, selected specifically to result in a balanced population. NOTE: The 14 horses in I 80 North will not be captured and then released back onto the range but it is estimated that they would evade normal efforts to capture them and remain at large or be in very small groups that were widely separated from other horses.

2006 SUMMER GATHER POPULATION ESTIMATES									
AREA	Adults Pre gather	Colts Pre gather	% Cap	Adults Capt	Colts Capt	Adult Rem	Colt Rem	Adult post	Colt post
Lost Creek	225	65	95	215	60	125	60	100	5
Stewart Creek	280	85	85	240	75	155	65	125	20
I 80 N*	90	28	90	76	28	76	28	14	
	595	178		531	163	356	153	239	25

NOTE: Adult includes all animals one year and older, colt includes colts born since January 1 (most in these herds [>85%] are born between May 10 and June 10)

* Includes Bairoil pasture of Stewart Creek allotment

PURPOSE

Removal of Animals, Background

Wild, free roaming horses are removed from the public and private lands for two distinctly different purposes. When horses inside of HMAs exceed the population levels established for them, excess horses (the number of horses present above that established level) may be removed. When horses stray from within the HMAs to nearby areas of public or private land, the strayed horses must be removed if it is not practical to return them to the HMA from which they have strayed. Rarely

can horses be successfully returned to the HMA they left. If any appreciable amount of time has passed since they have left the HMA, the likelihood that they will return to the place they have strayed to is quite high. Horses in I 80 North may have originally come from either the Lost Creek or Stewart Creek HMAs in the RFO or the Green Mountain HMA in the Lander Field Office or the Divide Basin HMA in the Rock Springs Field Office.

The purpose of this removal action is to continue to implement decisions to achieve the Appropriate Management Levels (AMLs) that have been established for HMAs (remove excess horses) within the jurisdiction of the RFO and to limit the distribution of horses to these areas (remove stray horses). These decisions were based upon the analysis completed in Wyoming BLM Environmental Assessments (EA) WY-037-EA1-039, "Wild Horse Gathering Outside Wild Horse Management Areas" and WY-037-EA4-122, "Management Changes in the Wild Horse HMAs." The EA titled, Management Changes in the Wild Horse HMAs, evaluated management recommended by the Wild Horse Herd Management Area Evaluation. These two documents were completed in 1994 after an intensive monitoring effort in the HMAs. Establishment of AMLs occurred with this public process. Adjustment of HMA boundaries occurred as well. Subsequent adjustments were made known by a notice of Land Use Plan Maintenance published on December 15, 1999. The effect of maintaining AMLs on the horses, their habitat, and the other users of the public land was analyzed in EA# WY030-EA0-037 (January, 2000) Additional analysis of wild horse removal from the Stewart Creek HMA was conducted in EA# EA0-214.

Current wild horse management areas and levels were addressed in the Rawlins RMP update, now ongoing. In the development of alternatives, the presence and possible implication of New World Iberian genetics in the Lost Creek horses was identified. Alternative #3 of the RMP was framed as if the horses in Lost Creek were determined to be rare and unique and would have to be managed in absolute isolation from all others. The AML of 165 was developed to insure that the population would never contain less than 100 mature adults between the ages of three and twelve. This criteria was adapted from the literature and is purported to be the level that insures genetic survival in an already healthy population. (One such as Lost Creek that isn't already 'sick' and in need of some kind of 'fixing', but rather just maintaining of the status quo). Further review and consultation has determined two things of significance:

FIRST:

The genetics of the Lost Creek horses, while rare, are not so rare as to warrant any special designation; and,

SECOND:

The AML of 165 is not necessary to maintain the population level within desired limits and insure genetic integrity. Further examination of specific history of this population yields the following. In the early spring of 2001, a gather which was targeted at reducing the population to 70 (the AML for the HMA) was forced to quit early due to adverse weather conditions and funding shortfalls, leaving the population at approximately 100. It has grown steadily and healthily from there to its present level and there is every assurance that, if reduced to that level again, it will rebound similarly again. And habitat conditions during the time have been favorable in spite of several years of near record drought. Thus, the objective of this PMA will be to reduce the adult population level to 100 animals. In addition, most colts captured will be removed and made available for adoption. These colts will range in age from 60-90 days old. They will require a little extra care and attention prior to adoption but it will not exceed the costs and risks that would accrue to the level of fertility control that would be required to achieve the same result. Their removal will have the same effect on the population as administering a contraceptive with a one year effectiveness in 2005 would. The population will increase almost nothing in 2007 (or at the end of 2006), then returning to a 'normal' rate of increase the following year. The result will be that when the next gather comes due in this herd, there will have been one less reproductive cycle than there otherwise would have been.

Removal of Excess Animals

The Stewart Creek and Cyclone Rim/Antelope Hills HMAs were designated in 1994 from the Seven Lakes HMA. The boundary of the Stewart Creek HMA was adjusted and the Antelope Hills HMA and the Lost Creek HMA were designated from the Cyclone Rim/Antelope Hills HMA by notice on December 15, 1999. Throughout this progression, the AMLs for the HMAs have been monitored and evaluated. The result of this progression is that the AML for the Stewart Creek HMA is 150 horses and the AML for the Lost Creek HMA is 70 horses. The current population of this area is estimated to be 511 horses, including unweaned foals. This is approximately 325 more than the combined population objectives (AMLs) for the area and thus, an excess exists. Gathering of excess wild horses is in conformance with Public Law 92-195 (Wild and Free-Roaming Horse and Burro Act of 1971) as amended. Public Law 92-195, as amended, requires the protection, management, and control of wild free-roaming horses and burros on public lands.

As provided in 43 CFR 4700.0-6, BLM's policy for management of wild horses is to:

- a)...managed as self-sustaining populations of healthy animals in balance with other uses and the productive capacity of their habitat;
- b)...considered comparably with other resource values; and
- c)...maintaining free-roaming behavior.

The planned action is also in compliance with the following section of the CFR:

43 CFR 4720.1 - Upon examination of current information and a determination by the authorized officer that an excess of wild horses or burros exists, the authorized officer shall remove the excess animals immediately.

In order to determine the number of horses that are excess and thus subject to removal, more than just the AML must be considered. It is accepted practice, when establishing the AML for a particular population of horses to identify a range within which that population will be allowed to fluctuate. The limits of that range are known as the upper and lower limits for that AML. Removal actions are indicated when the population approaches the upper limit and designed to insure that the population will not go below the lower limit established for it. This enables removal actions to be scheduled less frequently than would be indicated to maintain populations at a constant level.

Removal of Strayed Animals

The Bureau of Land Management is responsible for the welfare of wild horses, their habitat (HMAs), and adjacent areas of public and private land that are effected by the presence of wild, free roaming horses. EA WY-037-EA1-039, completed in 1991, specifically addressed the geographic areas in the Rawlins Field Office where wild horses may become established that were not within designated HMAs. Bairoil and I-80 North are two of those areas. In addition, EA WY-037-EA0-037 completed in 2000 addressed alternative management strategies for wild horses within the Rawlins Field Office jurisdiction. The net effect of all of these individual analyses is to affirm that in order to maintain the healthy habitats that wild horses and other users of the public lands require, it is necessary to control population levels within established levels and areas as prescribed by law. The action described in this plan will meet those requirements.

Horses that occupy the Bairoil and I-80 North areas, for the most part, have strayed from the Stewart Creek HMA and will continue to do so as long as the Stewart Creek population continues to expand above the AML set for it. The nearby Green Mountain HMA also contributes a few to the Bairoil area.

During the course of the year, horses that enter the Bairoil area may be periodically relocated to the nearby HMA or removed from the range when they pose a threat to human safety and private property within and adjacent to the Bairoil town site. Horses that enter the I-80 North area do not typically pose an immediate threat to public safety nor private property and therefore may not be relocated until an actual gather is planned.

The planned action would limit wild horse distribution to HMAs and prevent damage to private and public lands. Establishment of HMAs occurred under the planning process after evaluation and analysis in 1994. Refer to EA# WY-037-EA4-122.

Specific Project Management

The three areas are contiguous with one another and with the Divide Basin HMA in the Rock Springs Field Office jurisdiction, and the Antelope Hills and Green Mountain HMAs in the Lander Field Office jurisdiction. The Antelope Hills, Divide Basin, and Crooks Mountain HMAs are also scheduled to be gathered during this same time period (summer of 06). The Green Mountain HMA was gathered the preceding fall (05) and may require some additional attention in 06. The Antelope Hills HMA was gathered in the fall of 2003 and fertility control was administered to most of the mares between the ages of two and twelve. Inventories and monitoring conducted periodically have suggested that the reproductive rate in the Antelope Hills HMA may well have been reduced significantly enough that the population level has not increased to a level indicating the need for further adjustment at this time. Thus, it is likely that work in that entire area will be arranged to proceed as follows:

1. Green Mountain, Crooks Mountain, Lost Soldier pasture of Stewart Creek and Bairoil
2. Western Stewart Creek HMA and eastern I 80 North
3. Lost Creek and western I 80 North
4. Northern Divide Basin
5. Southern Divide Basin

This order may change in response to unforeseen changes in any number of things.

RELATIONSHIP TO THE LAND USE PLAN

The planned action conforms with the land use plan terms and conditions as required by 43 CFR 1610.5-3. This action is subject to the Great Divide Resource Management Plan (RMP), approved November 8, 1990. Actions proposed in this plan are consistent with the Wild Horse Management Objective on page 41 of the RMP which states . . . to protect, maintain, and *control* a viable healthy herd of wild horses . . . (Emphasis added).

The action would also be in conformance with the Great Divide Herd Management Area Evaluation and the associated EA (WY-037-EA4-122). Recommendations from this evaluation were the basis for increasing AMLs from previous levels and adjusting HMA boundaries. Rangeland conditions have not changed significantly since 1994. The proposed action is consistent with all other federal, state, and local plans. The proposed action is in conformance with Appendix III of the RMP - *Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management*. No additional permits or authorizing actions are required.

RELATIONSHIP TO OTHER AREAS AND PLANNED ACTIONS

The area affected by this plan is that portion of the Rawlins Field office that is north of Interstate 80 and west of US 287. It contains two Herd Management Areas (HMAs): Stewart Creek and Lost Creek which are managed by the RFO and two areas outside of these HMAs. One of these areas outside of the HMA is referred to as Bairoil and the other as I-80 North. It also contains a portion of one HMA, Antelope Hills, managed by the Lander Field Office. Determination of the AMLs for these HMAs considered several factors. Among them was the level at which horses began to leave the seemingly abundant forage supply within the HMAs and seek space in areas outside of the HMAs. Thus it was made clear that the total, combined populations of the Stewart Creek, Lost Creek, and Antelope Hills HMAs determined whether or not horses would leave the HMAs and attempt to establish residence outside the HMAs in the areas known as I-80 North and Bairoil. This high degree of apparent interaction was an important consideration in the identification of the Red Desert metapopulation and the horses comprising that metapopulation. (See EA# WY-039-EA0-037 for a complete discussion of metapopulations). When PMAs are planned for these and adjacent HMAs, careful consideration will be given to reestablishing the population balance indicated

for the entire area. The Stewart Creek HMA is joined on the west by the Lost Creek HMA and on the north by the Green Mountain HMA. The Lost Creek HMA is joined on the west by the Divide Basin HMA which is managed by the Rock Springs Field Office. The Antelope Hills HMA is closely associated with the Crooks Mountain and Green Mountain HMAs which are managed by the Lander Field Office. The entire area is dominated by the Great Divide Basin which is a closed basin with no external drainage to either ocean. The Red Desert is in the approximate center of the basin and gives its name and mystique to many things that occur there.

The Stewart Creek HMA corresponds with one grazing allotment, the Stewart Creek allotment. The Stewart Creek pasture comprises the western portion of the HMA while the Ferris Incommon pasture comprises the eastern portion. The Lost Soldier pasture is in the north central portion of the HMA.

The Lost Creek HMA corresponds with a portion of one grazing allotment, the Cyclone Rim allotment.

The I 80 north area contains several grazing allotments. All are under the jurisdiction of the Rawlins Field Office. They are: GL, North Tipton, Red Desert, Monument Lake, North Wamsutter, Ruby Knolls, Monument Draw, Latham, Chain Lakes, Jawbone, Separation Flats, Shamrock Hills, Sandstone, Larson Knoll, Shamrock Ranch and North Creston West. This is the northern portion of the checkerboard area and these areas are all at least one half private land.

The Lost Creek HMA is entirely within the Cyclone Rim Allotment which is under the jurisdiction of the Rawlins Field Office. The northern portion of the Antelope Hills HMA is within the Green Mountain Common Allotment and its southern portion is within the Cyclone Rim Allotment. The Crooks Mountain HMA is entirely within the Green Mountain Common Allotment. A portion of the Green Mountain HMA is within the Green Mountain Common Allotment and a portion of it is within the Whiskey Peak Allotment. These allotments are within the jurisdiction of the Lander Field Office.

WILD HORSE MANAGEMENT IN WYOMING

Wild Horse Management Areas and AMLs are determined and managed by the local BLM staff on a site-specific, case-specific basis in a multiple use setting and interdisciplinary context. Local interactions are identified and considered. The needs for specific, individual removal actions are one of the products of this process. Significant, highly specialized resources are required to meet those needs and insure that the best possible care is available for affected animals. Most of these needs are met by contracts that are awarded at the regional level. Additional resources are maintained and managed at the State level. Effective and responsible use of these resources requires a high degree of coordination. The time available to complete actions is constrained and therefore movement of equipment during that time must be minimized in order to make good use of the time available. While some flexibility to meet changing circumstances still remains, it is extremely important to remain aware of the inherent interdependencies of the various parts of the removal process. When a specific removal action is scheduled, facility availability, personnel availability, equipment availability, and local weather trends are just part of the list of things that must be considered. Simply put, a single person or piece of equipment cannot be in two places at once. In the initial scheduling of the entire year's work for the personnel and equipment responsible for completing the individual removal actions, there is some opportunity for adjusting activities to get the best possible fit. Variations in the mix of contractual services employed can increase flexibility. However, private contractors are not currently available to perform some parts of the process such as holding and processing. Once the schedule is made, however, opportunities for change are much more limited. For instance, a particular action that has been scheduled for March cannot be rescheduled for August unless the action already scheduled for August can, in turn, be rescheduled and the facilities can accommodate any changes in numbers, mix, etc as a result of the change. The completion of the year's planned

activities requires a mixture of contractual and BLM controlled activities that is determined at the budget and planning time.

WILD HORSE MANAGEMENT IN THE BLM

Just as individual field offices in Wyoming exist within the State, the State of Wyoming exists within the larger national setting with respect to Wild Horse Management. Facilities similar to the one in Rock Springs, Wyoming exist in Nevada, Utah, Colorado, Oregon, California, Arizona, Nebraska, Oklahoma, and Tennessee. Herds of wild horses exist in ten of the western states where the public lands are and Movement of horses and availability of personnel and equipment is necessarily coordinated among all of these. For instance, the successful completion of planned adoptions in the Eastern United States has a major effect on the completion of planned roundups in Wyoming. The entire process is referred to as the Pipeline and under the overall direction of the Washington office of the BLM. Coordination is such that horses captured in Wyoming may go to a facility in some other state for processing in order to make most efficient use of all available resources.

NEPA RECORD

The entire National Environmental Policy Act (NEPA) record for this action comprises more than just EA# WY-030-EA3-291, prepared for the action described in this plan. It consists of at least the following and can include other actions which are less directly related to Wild Horse management activities.

YEAR	NEPA DOCUMENT	SUBJECT
1978	Seven Lakes Grazing EIS	Domestic Livestock grazing vis-à-vis other uses of the public forage resource
1983	Divide Grazing EIS	Domestic Livestock grazing vis-à-vis other uses of the public forage resource
1990	Great Divide RMP/EIS	Interrelationship of all public land uses
1991	EA WY037-EA1-039	Removal of strayed horses from areas outside of HMAs
1994	EA WY037-EA4-122	Adjustment of HMA boundaries and establishment of AMLs based on monitoring data collected since 1989
1999	EA WY030-EA9-156	Removal of strayed horses from areas outside of the Adobe Town HMA
1999	EA WY030-EA0-037	Maintaining Viable Populations of Wild Horses in Herd Management Areas of the Rawlins Field Office
1999	EA WY030-EA0-038	Wild Horse Gathering in I80N
2000	EA WY030-EA0-181	Wild Horse gathering in the area.
2000	EA WY030-EA0-214	Wild Horse gathering in Stewart Creek.

NUMBER OF ANIMALS TO BE CAPTURED/REMOVED

All horses captured will be transported to the BLM facilities in Rock Springs or Canon City, Colorado.

The net effect will be that approximately 531 horses one year of age and older and 163 colts of the year will be captured and handled. 356 horses one year of age and older and 153 colts of the year will be selected for removal and the remaining returned to the range.

SELECTIVE REMOVAL

It has been the policy of the BLM since 1992 not to remove horses for which no adoption demand exists from the public lands. Horses captured for which no adoption demand exists have historically been returned to the HMA where they were captured. That policy is adjusted periodically to reflect a variety of issues

such as adoption demand and success and legal requirements. The current national policy at gather time is reflected in the final decisions as to which horses to remove from the public lands and how to handle them.

DATE(S) OF PMA AND ANY DATE RESTRICTIONS OR ALTERNATIVE DATES

This action is scheduled to start on or about August 15, 2006 and end on or about October 1, 2006. Should weather or other conditions make this period of time unavailable, this action would have to be rescheduled for some other time when all necessary resources were available. It will not be conducted during the period April 1- July 15 to avoid stress to heavy mares and small foals.

TRAPS

Trap site selection is a process which begins with the identification of areas and conditions for the location of traps and often ends just a few days before the actual PMA with the final selection of the exact location and its final configuration.

a. General

General location/exclusion criteria are identified by the field office staff in the preliminary planning for the specific PMA. Such things as access, raptor nesting, seasonal wildlife restrictions, other permitted activities result in general areas in which specific traps may be located or must not be located and steps required to finalize trap site selection (e.g. cultural, landowner permission). Location of fences that may restrict horse movement and typical distribution of animals at the proposed time are also noted.

b. Specific

Specific trap site selection will be made by the contractor, and the trap will be located on the site that will function best and produce a minimum of impacts. Required clearances (i.e. cultural, T&E) will then be obtained. Personnel working at the trap sites will inspect the area within the wings and the approach to the wings to insure that dangerous obstacles or obstructions are identified and alleviated. (Reference aviation plans) For trap construction, refer to the statewide plan/standards. Arrangements for fence modifications, gate openings, closings, herding of livestock, water availability, etc. will be finalized at this point.

The weather conditions and current location of the horses will be the final determining factor in the number and location of traps utilized.

When a trap site has been initially selected for use, it will be reviewed in accordance with the practices prescribed in the Handbook and analyzed in EA# WY-030-EA0-037. This includes consultation under Section 7 of the Endangered Species Act and Section 106 of the National Historic Preservation Act.

c. Trap Construction, Management

Trap construction is a complex science/art. Years of practice, observation, and experience have yielded the materials and methods presently employed. The corrals, themselves are constructed of portable steel panels. The wings are jute fabric on steel posts. The wings are usually reinforced with plastic snow fence where they join the trap. The loading chute is portable and moved from trap to trap. Trap construction is described in detail in the Wyoming Supplemental Program Guidance. Traps will typically be constructed and removed within a few weeks of their use and will rarely remain in place for more than a few weeks.

CAPTURE METHOD

An approved BLM contractor will be utilized. BLM approved contractors employ helicopters, Judas horses, and wranglers on foot or horseback. A few horses may

be roped in employing this combination of practices. Roping will not be the primary method of capture but will only be employed by experienced personnel in appropriate circumstances.

Feed or water trapping will not be employed because of the widespread availability of forage and water sources in the gather area and nearby. The presence of wildlife and livestock in the area also precludes the use of feed or water trapping for this action.

TRANSPORTATION

Captured animals will be transported to the BLM facility in Rock Springs via US HWY 287 and Interstate Highway 80 and the county roads in the area. Transportation to Canon City will be via US HWY 287, Interstate HWY 80, Interstate HWY 25 and US HWY 50. Equipment and handling will be in accordance with the instructions contained in the Handbook.

PRACTICES PLANNED TO MINIMIZE STRESS TO CAPTURED ANIMALS

Standard operating procedures will be employed which include the following practices:

GATHERING

The horses will be allowed to set the pace until they are within ~1/4 mile of the trap. If bands must be brought long distances, they will be allowed time to rest along the way if they indicate a need. Horses may be brought to the trap in stages which may include separate days if difficult terrain or obstacles warrant. Horses that run more than five miles at once will do so of their own choosing.

CAPTURE AND HANDLING AT THE TRAP SITE

Handling at the trap site is carefully monitored to insure that aggression and injury are kept to a minimum. The decision on when and how to load is determined by the behavior of the captured animals. Individuals or bands may be separated, if necessary. The long years of experience in trap construction have resulted in the use of materials such as jute, plastic snow fence, and panels of particular height and spacing; and methods including pen, gate, alley and chute design and use which minimize the horses' and wranglers' exposure to injury. When members of the public view the gather operation, they are required to occupy specific areas and conduct themselves so as to avoid additional stress to captured horses.

TRANSPORTATION

In order to minimize stress, only approved vehicles are employed and secure footing is maintained by the use of appropriate mats and/or bedding materials. The transport vehicles are continuously inspected for safety and adequacy and provide for separation in groups of twelve or less. When warranted, colts may be separated and transported separately.

FERTILITY CONTROL

This plan does not include the use of fertility control in an operational mode. This plan will be amended or a separate plan prepared prior to any operational application of fertility control in the field. An appendix to this plan contains a model for development of such a plan should it be warranted.

VETERINARIAN

The US Department of Agriculture/Animal and Plant Health Inspection Services (USDA/APHIS) will be consulted pursuant to the Memorandum of Understanding (MOU) between our agencies. This will result in the following:

Plan Consultation

USDA/APHIS has reviewed BLM practices in general and will continue to do so. This plan is reflective of that process. Additional specific recommendations as to specific practices may be generated at any time during the year and incorporated into existing practices.

On Site Consultation

For this particular action, USDA/APHIS may provide on-site consultation. This may consist of at least one site visit for the purpose of inspecting animal condition. It may also include additional periodic visits to the trap site(s) or facilities for the purpose of additional inspection/observation. The need for these additional visits will be determined by the USDA/APHIS vet who conducts the first site visit. USDA/APHIS is the primary agency responsible for compliance with requirements for interstate shipment of animals.

On Site Services

The USDA/APHIS vet who completes the initial on site visit will determine the need for and availability of on site services. This will include the collection of blood samples for genetic analysis. On site services may be procured from local practitioners if deemed necessary.

EUTHANASIA OF SICK, LAME, OR INJURED ANIMALS

Sick, lame, or injured animals will be euthanized at the trap site by trained, authorized personnel only, in accordance with the pertinent regulations. Remains will be disposed of at the site in accordance with established procedures.

ORGANIZATION

The team consists of the:
The Contracting Officers Representative
The Contractor and his employees
The Rock Springs Facility Manager and his employees
The Wyoming State Office Wild Horse Program Leader

CONSULTATION AND COORDINATION

a. Government Agencies.

The US Fish and Wildlife Service has been regularly consulted in accordance with Section 7 of the Endangered Species Act, as amended and will be consulted in accordance with procedures outlined in the Handbook.

b. Public Input.

c. Wyoming Game and Fish Department.

The WGFD is regularly consulted for its input concerning wildlife populations and needs.

PUBLIC VIEWING OF THE OPERATION

Commercial photographing or videotaping for other than personal use may be approved by the authorized officer provided that timely and appropriate application is made pursuant to 43 CFR 2920.

Media representatives may make arrangements to observe and/or record events by contacting Mary Wilson at 307-328-4329.

Interested members of the public may request to view gather operations by contacting the Contracting Officers Representative (COR) in the RFO. If the requests can be accommodated without compromising the safety or integrity of the operation, the COR will arrange for the viewing. Captured animals may be viewed

at the facility in Rock Springs, Wyoming which is generally open to the public during regular business hours.

Once begun, gather operations are subject to daily adjustment and modification and the opportunity for viewing is difficult to predict and manage. Trap sites are selected with a number of purposes in mind. Whether or not the site presents viewing or photographic opportunities is not one of those primary considerations.

BRANDED AND CLAIMED ANIMALS AND COMPLIANCE WITH STATE LAWS CONCERNING OWNERSHIP

Any branded horses captured will be transported to the Rock Springs facility where they will be processed in accordance with state laws regarding estray livestock as provided for by the Act.

Horses destined for interstate shipment will be made available for brand inspection by authorized personnel.

Approval/Signature.

I have reviewed the capture plan for the Rawlins Field Office for FY 2006. I find it to be complete.



RAWLINS FIELD MANAGER

DATE

APPENDIX 1

Fertility Control

APPENDIX 1

FERTILITY CONTROL

The fertility control vaccine, PZP (Porcine Zona Pellucida) is available to BLM under a research protocol only and administered under a use permit (INAD) held by the Humane Society of the US (HSUS).

BLM applications of fertility control are divided into Individual-based and Population-based trials. These trials are designed to evaluate the 1 and 2 year vaccines. Individual-based trials involve intensive field monitoring efforts both pre and post treatment of mares.

The following describes the practices employed in the McCullough Peaks HMA and would be the guide for development of specific methods for the Lost Creek and Stewart Creek HMA if fertility control were employed.

SUMMARY OF FERTILITY CONTROL METHODOLOGY **Specific to McCullough Peaks HMA**

1. PROPOSED FERTILITY CONTROL AGENT:

At this time, all published research indicates that the Immunocontraceptive Porcine Zona Pellucida (PZP) vaccine meets BLM requirements for an ideal contraceptive agent including criteria for safety and efficacy. When injected, PZP vaccine acts as an antigen and causes the mare's immune system to produce antibodies. These antibodies then bind to eggs in the mare's ovaries and effectively block sperm binding and fertilization. The vaccine is relatively inexpensive (\$20 per dose), can be remotely administered in the field, and requires a single annual booster dose to confer infertility for one breeding season. Research has shown that contracepted mares clearly show improvements in body condition and may actually live longer. From a mare physiological standpoint, PZP contraception appears to be completely reversible, does not appear to cause out-of-season births, and has no ill effects on ovarian function if contraception is not repeated for more than 5 consecutive years on a given mare.

If mares are already pregnant, research has shown that PZP vaccine will not affect normal development of the fetus, hormone health of the mare or behavioral responses to stallions. Recent behavioral studies with the Assateague Island and Shackleford Banks wild horses have shown that contracepted and uncontracepted mares had virtually identical activity budgets, associated in a similar manner with the harem stallion and showed no increase in harem exchange behavior or change in their social status during the study. All mares affected by the proposed action would continue to be monitored for body condition and aspects of social behavior. The latter would be compared to existing baseline data and control studies.

2. VACCINE QUALITY and REMOTE-DELIVERY PROTOCOL:

All PZP vaccine used on mares within the McCullough Peaks HMA would be provided by the Science and Conservation Lab (SCC), Zoo Montana and subjected to quality control testing. All documented aspects of PZP vaccine provision, mare selection, vaccine remote-delivery, dart recovery, record keeping, veterinary emergencies, and media relations would be strictly adhered to by all participants in the proposed action. This protocol shall serve as the Standard Operating Procedures (SOPs) for the proposed management action. Implementation of the SOPs would take into consideration all safety concerns, individual animal health and condition, seasonal distribution of the horses, as well as local weather and environmental considerations.

II. PARTICIPANTS

Project Manager: Patricia L. Hatle, Wild Horse and Burro Specialist, CYFO, BLM

Horse Identification: Field-trained and experienced
Susan Hahn, Seasonal Employee, USGS, BRD
Adam Inbody, Seasonal Volunteer, USGS, BRD
Phyllis Preator, Seasonal Employee, USGS, BRD

Vaccine Preparation: Robin Lyda, The Science and Conservation Center, Zoo Montana, 2100 South Shiloh Road, Billings, MT 59106

Designated Vaccine Handlers Jay F. Kirkpatrick, Kim Frank and Robin Lyda, The Science and Conservation Center, Zoo Montana, Billings, Mt.

Dr. John Turner
Medical College of Toledo, Ohio

Ron Hall, NPO, BLM

Research Oversight: Linda Coates-Markle, BiFO, BLM
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3. PERMISSION and CRITERIA for VACCINE USE:

The Humane Society of the United States (HSUS) has made the PZP vaccine available to the BLM under the Investigational New Animal Drug exemption (INAD #8857) filed with the federal Food and Drug Administration (FDA). As a condition of using the PZP vaccine, the HSUS expects the BLM to follow the Draft Criteria for Immunocontraceptive Use in Wild Horse Herds recommended by the Wild Horse and Burro National Advisory Board in August 1999.

4. AUTHORITY for PROPOSED ACTION:

The Wild Free-Roaming Horse and Burro Act of 1971 (Public Law 92-195) as amended, Section 3(b) (1), states that the Secretaries of the Interior and Agriculture shall "determine appropriate management levels of wild free-roaming horses and burros on areas of public lands; and determine whether appropriate management levels should be achieved by the removal or destruction of excess animals, or other options (such as sterilization or natural controls on population levels)." The authority may also be found at Title 43 of the Code of Federal Regulations (CFR-4700, Protection, Management and Control of Wild and Free-Roaming Horses and Burros).

With implementation of the proposed action, selected wild horse mares would be contracepted under a humane approach for a one-year period in accord with 43 CFR 4700.0-6 which identifies that [...wild horses]" shall be managed as self-sustaining populations of healthy animals in balance with other uses and the productive capacity of their habitat.", and with Public Law (PL) 92-195 Sec 3 (b) (2) which identifies the need to maintain appropriate management levels of wild horses within their herd management area (HMA).

The BLM has developed a long-term research strategy for the Wild Horse and Burro Program. A final draft of the Strategic Research Plan was reviewed and supported by the National Wild Horse and Burro Advisory Board in August 2002, and the BLM Director's Science Advisory Board in January 2003. Within this strategy, continuing research on fertility control is identified as a high priority and

directions are provided in the National Wild Horse Fertility Control Field Trial Plan (FCFTP) (Singer and Coates-Markle, 2002). The implementation of additional fertility control field trials, under this research protocol, began in the summer 2002.

The proposed action would adhere to all guidance and research protocol set by the oversight documents. The intent of this research is to answer those remaining questions and concerns about fertility control using PZP that are best answered on free-ranging populations in the wild. The plan details protocols for injections, experimental design, and research methods that will be employed to evaluate effects of PZP on free-ranging animals. The research focuses on the effects of immunocontraceptive treatment on seasonality of foaling, any possible compensatory reproduction of mares post-treatment, duration of estrus cycles, population growth rates, and harem behavior. The behavior and fertility of the treated mares will be studied both during the treatment phase, and for a minimum of two years post-treatment to assure that a return to normal fertility occurs.

5. PROCEDURES

A. Vaccine preparation and shipment: Vaccine would be prepared under the supervision of Robin Lyda, Science and Conservation Center (SCC), Billings, MT and transported to the field site in Wyoming on dry ice, under Food and Drug Administration authority (Investigational New Animal Drug exemption No.8857 (G0002 & 0003). FDA form "Notice of Drug Shipment" would be completed for each shipment of the PZP vaccine and filed in the offices of the Science and Conservation Center at Zoo Montana, Billings, MT.

B. Selection of subject animal: Animals to be treated will be identified by BLM and USGS-BRD field personnel. Approximately 40 released mares will be treated within the herd. The number and identity of animals would be selected on the basis of age and social structure as per the Environmental Assessment (EA) Alternative 1: Proposed Action. All animals selected for treatment would be female and at least one year old.

C. Delivery of contraceptive vaccine:

Target mares released back to the HMA would be treated with an immuno-contraceptive vaccine, porcine zona pellucidae (PZP), administered by trained BLM personnel. The inoculation of mares would consist of a liquid dose of PZP vaccine and a time released portion of the drug in the form of pellets. The approach incorporates the PZP into a non-toxic, biodegradable material which can be formed into small pellets. The pellets are injected with the liquid and are designed to release PZP at several points in time much the way time-release cold pills work.

Delivery of the vaccine would be by means of jab stick syringe or dart with a 12 gauge needle or 1.5" barbless needle respectfully, 0.5 cc of the PZP vaccine would be emulsified with 0.5 cc of adjuvant (a compound that stimulates antibody production) and loaded into the delivery system. The pellets would be placed in the barrel of the syringe or dart needle and would be injected with the liquid. Upon impact the liquid in the chamber would be propelled into the muscle along with the pellets. This formulation would be delivered as an intramuscular injection by a jab stick syringe, while mares are restrained in the working chute. This delivery method has been used previously to deliver immuno-contraceptive vaccine with acceptable results. Administration of this two-year vaccine to mares in late summer (before November) would be expected to be 94% effective the first year, 82% the second year, and 68% the third year.

D. Monitoring:

The intent of the monitoring would be to assess vaccine effects on mare estrus, foaling, body condition, behavior, fitness and survival. The use of the immunocontraceptive would adhere to well-developed research protocol, and is responsible to restrictions and requirements placed on continuing research efforts with the PZP vaccine as set by the Humane Society of the United States

(HSUS), the Food and Drug Administration (FDA), Animal and Plant Health Inspection Service (APHIS) and the National Wild Horse and Burro Advisory Board.

The field trials will provide either three or four years of contraception to treated mares. Following three or four years of contraception, treated mares will be allowed to return to normal reproductive function. Their reproductive rates, behavior, and harem social structure will be observed for a minimum of two years post-treatment, to assure that normal fertility is resumed. The treated mares will be individually marked and/or be individually recognizable without error. The treated mares must be left on the range for the duration of the research, and are not likely to be treated again.

In May 2003, United States Geological Survey - Biological Research Division (USGS-BRD) biological technicians under the supervision of BRD research biologists began the field trial studies to assess effects on mare estrus, foaling, body condition, behavior, fitness and survival. Individual behavior, reproduction, survival, and any health abnormalities will be closely monitored in the individually recognized horses.

Mares in 7 or 8 harems were selected for intensive studies during the summer of 2003. Pretreatment data on harem dynamics, population dynamics, and behavior was collected in 2003 and will have been gathered for two consecutive years prior to contraception. Treated mares will be compared to untreated mares (controls) in the same harems. Multivariate models will include age of mare, year, weather, density-dependent relations, and compensatory responses. If possible, harems with no treated mares will also be observed.

As of August 1, 2004 USGS-BRD field technicians have identified and entered into WHIMS a total of 498 individuals as part of the field trial study. In conformance with the Fertility Control Field Trial Plan for Individual-Based Study Herds, individuals would be initially recognized from natural markings using a computerized photo ID system call WHIMS (Wild Horse Information Management System, USGS_BRD, Ron Osborne, Final report to BLM 1999). Records and any photos will be maintained at the field office and a copy of the completed PZP treatment form will be sent to the National Program Office (NPO), Reno NV and the WH&B Research Coordinator and BRD-USGS.

A tracking system will be maintained by NPO detailing the quantity of PZP issued, the quantity used, the disposition of any unused PZP, and the number of treated mares by HMA, FO and State along with the freeze-mark applied by HMA. In the vast majority of cases, the released mares will never be gathered sooner than the mandatory three- year holding period. In those rare instances when, due to unforeseen circumstances, a treated mare(s) are removed from an HMA they will be maintain either in a BLM facility or a contracted Long Term Holding Facility until the expiration of the three- year holding period. In the event that it is necessary to remove treated mares, their removal and disposition will be coordinated through NPO. After expiration of the three-year holding period, the animal may be placed in the adoption system.

APPENDIX B
DEMOGRAPHICS

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This presents the source and methods used to derive pre-gather population estimates, post gather population targets and possible alternative targets that might be made necessary by policies directed by the National Program Office for the Wild Horse and Burro program regarding the removal of sale eligible horses from the range in conjunction with scheduled gather activities. These tools are also employed to predict population growth and change, over time.

Derivation of pre-gather population estimates utilizes the following:

- 1) WHBIS age/sex data from recent gathers.
- 2) WHBIS age/sex data from all gathers.
- 3) Annual field observations which include foaling rates and foal survival.
- 4) Excel spreadsheets developed by the Rawlins Field Office. These spreadsheets employ many of the same data and relationships as Dr Stephen Jenkins' population model. They lack the stochasticity of Dr Jenkins' model but offer a less complex method for arraying and cataloging some frequently used projections. In addition, they provide some analysis of the nature of the population portrayed such as percentages of age classes and groups of age classes. While one could certainly argue for additional permutations, it should be noted that all of these were designed to print legibly on a single sheet of paper.

Derivation of post gather population targets and possible alternative targets utilizes all of the above plus:

- 1) Age/sex data from published studies for other populations.
- 2) Selective Removal policies in place or anticipated.
- 3) Experience gained from ongoing observations and gather activities.

The following spreadsheets are attached. The formulas utilized are displayed for information purposes, only. Each spreadsheet is briefly described. These are the formats/sources that are common to both the Lost Creek and Stewart Creek HMAs:

AGESEX	This spreadsheet is used to develop, analyze, compare and display age/sex distributions.
AGESEX+5	This spreadsheet is used to estimate population growth for a five year period and provides the opportunity to compare the effects of various foaling and survival rates. It is formula driven and employs variables specific for each situation.
AGESEXIC.5+3	This spreadsheet is used to compare projected growth for three years, employing a fertility control strategy which treats ½ of released mares. The opportunity is provided to adjust for variations in the effectiveness of the vaccine utilized and to employ herd specific foaling and survival rates.
AGESEXICall+3	Same as above except that the fertility control is administered to all released mares. The base line or control is derived by the same process employed above.
AGESEXslall	Using WHBIS as the source, displays age/sex distribution for all horses captured in the Seven Lakes area for a multi-year period. It should be noted that a large percentage of the gathers represented here were conducted in the late winter period, prior to the birth of the current year's foal crop. Thus, the 0 age class is underrepresented in this portrayal.

APPENDIX B
DEMOGRAPHICS
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Next, the following are presented for each HMA, first Stewart Creek, then Lost Creek:

STEWART CREEK

AGESEX06scpg	Pre gather estimate
AGESEXSC02	One of the sources for estimating Stewart Creek population. Last large gather conducted here.
AGESEXSC06	Post gather target (proposed action).
AGESEXIC.5+3SC06	Projected growth under one fertility control scenario.

LOST CREEK

AGESEX06lcp	Pre gather estimate
AGESEXLC06	Post gather target (proposed action)
AGESEX+5lcpa	5 years projected growth
AGESEX+5lcns	Comparison if no sale eligible horses could be removed in 2006 (not proposed)
AGESEX+5lcase	Comparison if all sale eligible horses were removed in 2006 (not proposed)

DISCUSSION

Both

The post gather target distribution for each HMA considers the historical Observations and then smoothes the results and therefore would not mimic any past Catastrophic events. It reflects the reality of age specific removal criteria that would likely be employed.

Lost Creek

The current population (pre-gather) estimate includes only a slight gain from Immigration. A few individuals came from Stewart Creek and a few from The Red Desert allotment. It also includes a number (~60) who water in the Chain Lakes Management Area but spend most of their time nearby in the HMA. It does not include the few (~16 who spend all of their time in the Chain Lakes nor the approximately 29 that remain in the Red Desert Grazing Allotment.

All of the above analysis assumes that the 100 recommended as the desired minimum to maintain the integrity of the suspected Spanish Colonial genetics will be the basis, rather than the 60 which is the Lower limit of the AML at least until a decision is reached on the genetic importance of the herd and the long term management approach adopted which may or may not include other, nearby populations.

If Fewer Than the ~15 Proposed 10 And Older Are Removed In 2006

Growth rate will be decreased and a corresponding number of younger horses will have to be removed with the potential for decreasing the growth rate even more. If that were taken to the extreme and NO sale eligible horses could be removed, the resulting geriatric population would grow at a very low rate and be vulnerable to catastrophic events.

If More Than The ~15 Proposed 10 And Older Can Be Removed In 2006

Growth rate will be increased slightly. More younger horses can be left with the potential for increasing the growth rate even more. It is interesting to note that the other end of the extreme, removing all sale eligible horses (NOT proposed but analyzed for comparison) would not significantly increase the population.

Stewart Creek

The current population (pre-gather) estimate reflects significant immigration from The Green Mountain HMA in 2004 and 2005.

Results from the various removal practices would be similar to those for Lost Creek.

AGE/SEX DISTRIBUTION					
AGE	NUMBER FEMALES	NUMBER MALES	NUMBER OF ANIMALS	PER CENT FOR AGE	CUMULATIVE PER CENT
0			=B4+C4	=D4/\$D\$35	=+E4
1			=B5+C5	=D5/\$D\$35	=+F4+E5
2			=B6+C6	=D6/\$D\$35	=+F5+E6
3			=B7+C7	=D7/\$D\$35	=+F6+E7
4			=B8+C8	=D8/\$D\$35	=+F7+E8
5			=B9+C9	=D9/\$D\$35	=+F8+E9
6			=B10+C10	=D10/\$D\$35	=+F9+E10
7			=B11+C11	=D11/\$D\$35	=+F10+E11
8			=B12+C12	=D12/\$D\$35	=+F11+E12
9			=B13+C13	=D13/\$D\$35	=+F12+E13
10			=B14+C14	=D14/\$D\$35	=+F13+E14
11			=B15+C15	=D15/\$D\$35	=+F14+E15
12			=B16+C16	=D16/\$D\$35	=+F15+E16
13			=B17+C17	=D17/\$D\$35	=+F16+E17
14			=B18+C18	=D18/\$D\$35	=+F17+E18
15			=B19+C19	=D19/\$D\$35	=+F18+E19
16			=B20+C20	=D20/\$D\$35	=+F19+E20
17			=B21+C21	=D21/\$D\$35	=+F20+E21
18			=B22+C22	=D22/\$D\$35	=+F21+E22
19			=B23+C23	=D23/\$D\$35	=+F22+E23
20			=B24+C24	=D24/\$D\$35	=+F23+E24
21			=B25+C25	=D25/\$D\$35	=+F24+E25
22			=B26+C26	=D26/\$D\$35	=+F25+E26
23			=B27+C27	=D27/\$D\$35	=+F26+E27
24			=B28+C28	=D28/\$D\$35	=+F27+E28
25			=B29+C29	=D29/\$D\$35	=+F28+E29
26			=B30+C30	=D30/\$D\$35	=+F29+E30
27			=B31+C31	=D31/\$D\$35	=+F30+E31
28			=B32+C32	=D32/\$D\$35	=+F31+E32
29			=B33+C33	=D33/\$D\$35	=+F32+E33
30			=B34+C34	=D34/\$D\$35	=+F33+E34
TOTALS	=SUM(B4:B34)	=SUM(C4:C34)	=SUM(D4:D34)		
HMA					
SR @ BIRTH					
(% FEM)	=B4/D4	# FEM 3-14	=SUM(B7:B18)		
AV AGE	=G35/D35	#>0	=D35-D4		
% FEM	=B35/D35	% FEM 3-14	=D40/D35		
% <6	=F9	NOTES			
% 6-9	=SUM(E10:E13)				
% 10 +	=F34-F13				

AGE/SEX DISTRIBUTION										
	NUMBER	NUMBER	TOTAL	%	CUM	EST	EST	EST	EST	EST
AGE	FEMALES	MALES	ANIMALS	AGE	%	YR + 1	Y+ 2	Y+3	Y+4	Y+5
0			=SUM(B4:C4)	=D4/\$D\$35	=E4	=SUM(G5:G34	=SUM(H5:H	=SUM(I5:I34	=SUM(J5:J3	=SUM(K5:K
1			=SUM(B5:C5)	=D5/\$D\$35	=F4+E5	=D4*\$G\$41	=G4*\$G\$41	=H4*\$G\$41	=I4*\$G\$41	=J4*\$G\$41
2			=SUM(B6:C6)	=D6/\$D\$35	=F5+E6	=D5*\$G\$42	=G5*\$G\$42	=H5*\$G\$42	=I5*\$G\$42	=J5*\$G\$42
3			=SUM(B7:C7)	=D7/\$D\$35	=F6+E7	=D6*\$G\$43	=G6*\$G\$43	=H6*\$G\$43	=I6*\$G\$43	=J6*\$G\$43
4			=SUM(B8:C8)	=D8/\$D\$35	=F7+E8	=D7*\$G\$44	=G7*\$G\$44	=H7*\$G\$44	=I7*\$G\$44	=J7*\$G\$44
5			=SUM(B9:C9)	=D9/\$D\$35	=F8+E9	=D8*\$G\$45	=G8*\$G\$45	=H8*\$G\$45	=I8*\$G\$45	=J8*\$G\$45
6			=SUM(B10:C10)	=D10/\$D\$35	=F9+E10	=D9*\$G\$46	=G9*\$G\$46	=H9*\$G\$46	=I9*\$G\$46	=J9*\$G\$46
7			=SUM(B11:C11)	=D11/\$D\$35	=F10+E11	=D10*\$G\$47	=G10*\$G\$4	=H10*\$G\$4	=I10*\$G\$47	=J10*\$G\$4
8			=SUM(B12:C12)	=D12/\$D\$35	=F11+E12	=D11*\$G\$48	=G11*\$G\$4	=H11*\$G\$4	=I11*\$G\$48	=J11*\$G\$4
9			=SUM(B13:C13)	=D13/\$D\$35	=F12+E13	=D12*\$G\$49	=G12*\$G\$4	=H12*\$G\$4	=I12*\$G\$49	=J12*\$G\$4
10			=SUM(B14:C14)	=D14/\$D\$35	=F13+E14	=D13*\$G\$50	=G13*\$G\$5	=H13*\$G\$5	=I13*\$G\$50	=J13*\$G\$5
11			=SUM(B15:C15)	=D15/\$D\$35	=F14+E15	=D14*\$G\$51	=G14*\$G\$5	=H14*\$G\$5	=I14*\$G\$51	=J14*\$G\$5
12			=SUM(B16:C16)	=D16/\$D\$35	=F15+E16	=D15*\$G\$51	=G15*\$G\$5	=H15*\$G\$5	=I15*\$G\$51	=J15*\$G\$5
13			=SUM(B17:C17)	=D17/\$D\$35	=F16+E17	=D16*\$G\$51	=G16*\$G\$5	=H16*\$G\$5	=I16*\$G\$51	=J16*\$G\$5
14			=SUM(B18:C18)	=D18/\$D\$35	=F17+E18	=D17*\$G\$51	=G17*\$G\$5	=H17*\$G\$5	=I17*\$G\$51	=J17*\$G\$5
15			=SUM(B19:C19)	=D19/\$D\$35	=F18+E19	=D18*\$G\$51	=G18*\$G\$5	=H18*\$G\$5	=I18*\$G\$51	=J18*\$G\$5
16			=SUM(B20:C20)	=D20/\$D\$35	=F19+E20	=D19*\$G\$52	=G19*\$G\$5	=H19*\$G\$5	=I19*\$G\$52	=J19*\$G\$5
17			=SUM(B21:C21)	=D21/\$D\$35	=F20+E21	=D20*\$G\$52	=G20*\$G\$5	=H20*\$G\$5	=I20*\$G\$52	=J20*\$G\$5
18			=SUM(B22:C22)	=D22/\$D\$35	=F21+E22	=D21*\$G\$52	=G21*\$G\$5	=H21*\$G\$5	=I21*\$G\$52	=J21*\$G\$5
19			=SUM(B23:C23)	=D23/\$D\$35	=F22+E23	=D22*\$G\$52	=G22*\$G\$5	=H22*\$G\$5	=I22*\$G\$52	=J22*\$G\$5
20			=SUM(B24:C24)	=D24/\$D\$35	=F23+E24	=D23*\$G\$52	=G23*\$G\$5	=H23*\$G\$5	=I23*\$G\$52	=J23*\$G\$5
21			=SUM(B25:C25)	=D25/\$D\$35	=F24+E25	=D24*\$G\$53	=G24*\$G\$5	=H24*\$G\$5	=I24*\$G\$53	=J24*\$G\$5
22			=SUM(B26:C26)	=D26/\$D\$35	=F25+E26	=D25*\$G\$53	=G25*\$G\$5	=H25*\$G\$5	=I25*\$G\$53	=J25*\$G\$5
23			=SUM(B27:C27)	=D27/\$D\$35	=F26+E27	=D26*\$G\$53	=G26*\$G\$5	=H26*\$G\$5	=I26*\$G\$53	=J26*\$G\$5
24			=SUM(B28:C28)	=D28/\$D\$35	=F27+E28	=D27*\$G\$53	=G27*\$G\$5	=H27*\$G\$5	=I27*\$G\$53	=J27*\$G\$5
25			=SUM(B29:C29)	=D29/\$D\$35	=F28+E29	=D28*\$G\$53	=G28*\$G\$5	=H28*\$G\$5	=I28*\$G\$53	=J28*\$G\$5
26			=SUM(B30:C30)	=D30/\$D\$35	=F29+E30	=D29*\$G\$53	=G29*\$G\$5	=H29*\$G\$5	=I29*\$G\$53	=J29*\$G\$5
27			=SUM(B31:C31)	=D31/\$D\$35	=F30+E31	=D30*\$G\$53	=G30*\$G\$5	=H30*\$G\$5	=I30*\$G\$53	=J30*\$G\$5
28			=SUM(B32:C32)	=D32/\$D\$35	=F31+E32	=D31*\$G\$53	=G31*\$G\$5	=H31*\$G\$5	=I31*\$G\$53	=J31*\$G\$5
29			=SUM(B33:C33)	=D33/\$D\$35	=F32+E33	=D32*\$G\$53	=G32*\$G\$5	=H32*\$G\$5	=I32*\$G\$53	=J32*\$G\$5
30			=SUM(B34:C34)	=D34/\$D\$35	=F33+E34	=D33*\$G\$53	=G33*\$G\$5	=H33*\$G\$5	=I33*\$G\$53	=J33*\$G\$5
TOTALS	=SUM(B4:D	=SUM(C4:	=SUM(D4:D34)			=SUM(G4:G34	=SUM(H4:H	=SUM(I4:I34	=SUM(J4:J3	=SUM(K4:K
	Begin 1 yr or>	POP	=D35-D4		GROWTH %	=G35/D35-1	=H35/G35-1	=I35/H35-1	=J35/I35-1	=K35/J35-1
HMA			YEAR		POP	=G35-G4	=H35-H4	=I35-I4	=J35-J4	=K35-K4
						AVERAGE SURVIVAL RATES				
SR @ BIRTH						AGE				
% FEM	=B4/D4	# 3-14	=SUM(B7:B18)		CLASS	RATE				
						0	0.7			
AV AGE	=L35/D35	#>0	=D35-D4			1	0.85			
						2	0.96			
% FEM	=B35/D35	% 3-14	=D40/D35			3	0.96			
						4	0.96			
% <6	=F9	NOTES				5	0.96			
						6	0.96			
% 6-9	=SUM(E10					7	0.96			
						8	0.96			
% 10 +	=F34-F13					9	0.96			
						10 -14	0.9			
FOALING %	0.31					15 -19	0.76			
						20+	0.56			

POST GATHER TARGET AGE/SEX DISTRIBUTION AND COMPARATIVE POPULATION PROJECTIONS											
	NUMBER	NUMBER	NUMBER	%	CUM	EST	W/	EST	W/	EST	W/
AGE	FEMALES	MALES	ANIMALS	FOR AGE	%	Y + 1	IC	Y + 2	IC	Y+3	IC
0			=SUM(B4:B5)	=D4/\$D\$35	=E4	=SUM(G5:G3)	=SUM(H5:H3)	=SUM(I5:I34)	=SUM(J5:J34)	=SUM(K5:K3)	=SUM(L5:L34)
1			=SUM(B6:B7)	=D5/\$D\$35	=F4+E5	=D4*\$G\$41	=D4*\$G\$41	=G4*\$G\$41	=H4*\$G\$41	=I4*\$G\$41	=J4*\$G\$41
2			=SUM(B8:B9)	=D6/\$D\$35	=F5+E6	=D5*\$G\$42	=D5*\$G\$42	=G5*\$G\$42	=H5*\$G\$42	=I5*\$G\$42	=J5*\$G\$42
3			=SUM(B10:B11)	=D7/\$D\$35	=F6+E7	=D6*\$G\$43	=D6*\$G\$43	=G6*\$G\$43	=H6*\$G\$43	=I6*\$G\$43	=J6*\$G\$43
4			=SUM(B12:B13)	=D8/\$D\$35	=F7+E8	=D7*\$G\$44	=D7*\$G\$44	=G7*\$G\$44	=H7*\$G\$44	=I7*\$G\$44	=J7*\$G\$44
5			=SUM(B14:B15)	=D9/\$D\$35	=F8+E9	=D8*\$G\$45	=D8*\$G\$45	=G8*\$G\$45	=H8*\$G\$45	=I8*\$G\$45	=J8*\$G\$45
6			=SUM(B16:B17)	=D10/\$D\$35	=F9+E10	=D9*\$G\$46	=D9*\$G\$46	=G9*\$G\$46	=H9*\$G\$46	=I9*\$G\$46	=J9*\$G\$46
7			=SUM(B18:B19)	=D11/\$D\$35	=F10+E11	=D10*\$G\$47	=D10*\$G\$47	=G10*\$G\$47	=H10*\$G\$47	=I10*\$G\$47	=J10*\$G\$47
8			=SUM(B20:B21)	=D12/\$D\$35	=F11+E12	=D11*\$G\$48	=D11*\$G\$48	=G11*\$G\$48	=H11*\$G\$48	=I11*\$G\$48	=J11*\$G\$48
9			=SUM(B22:B23)	=D13/\$D\$35	=F12+E13	=D12*\$G\$49	=D12*\$G\$49	=G12*\$G\$49	=H12*\$G\$49	=I12*\$G\$49	=J12*\$G\$49
10			=SUM(B24:B25)	=D14/\$D\$35	=F13+E14	=D13*\$G\$50	=D13*\$G\$50	=G13*\$G\$50	=H13*\$G\$50	=I13*\$G\$50	=J13*\$G\$50
11			=SUM(B26:B27)	=D15/\$D\$35	=F14+E15	=D14*\$G\$51	=D14*\$G\$51	=G14*\$G\$51	=H14*\$G\$51	=I14*\$G\$51	=J14*\$G\$51
12			=SUM(B28:B29)	=D16/\$D\$35	=F15+E16	=D15*\$G\$51	=D15*\$G\$51	=G15*\$G\$51	=H15*\$G\$51	=I15*\$G\$51	=J15*\$G\$51
13			=SUM(B30:B31)	=D17/\$D\$35	=F16+E17	=D16*\$G\$51	=D16*\$G\$51	=G16*\$G\$51	=H16*\$G\$51	=I16*\$G\$51	=J16*\$G\$51
14			=SUM(B32:B33)	=D18/\$D\$35	=F17+E18	=D17*\$G\$51	=D17*\$G\$51	=G17*\$G\$51	=H17*\$G\$51	=I17*\$G\$51	=J17*\$G\$51
15			=SUM(B34:B35)	=D19/\$D\$35	=F18+E19	=D18*\$G\$51	=D18*\$G\$51	=G18*\$G\$51	=H18*\$G\$51	=I18*\$G\$51	=J18*\$G\$51
16			=SUM(B36:B37)	=D20/\$D\$35	=F19+E20	=D19*\$G\$52	=D19*\$G\$52	=G19*\$G\$52	=H19*\$G\$52	=I19*\$G\$52	=J19*\$G\$52
17			=SUM(B38:B39)	=D21/\$D\$35	=F20+E21	=D20*\$G\$52	=D20*\$G\$52	=G20*\$G\$52	=H20*\$G\$52	=I20*\$G\$52	=J20*\$G\$52
18			=SUM(B40:B41)	=D22/\$D\$35	=F21+E22	=D21*\$G\$52	=D21*\$G\$52	=G21*\$G\$52	=H21*\$G\$52	=I21*\$G\$52	=J21*\$G\$52
19			=SUM(B42:B43)	=D23/\$D\$35	=F22+E23	=D22*\$G\$52	=D22*\$G\$52	=G22*\$G\$52	=H22*\$G\$52	=I22*\$G\$52	=J22*\$G\$52
20			=SUM(B44:B45)	=D24/\$D\$35	=F23+E24	=D23*\$G\$52	=D23*\$G\$52	=G23*\$G\$52	=H23*\$G\$52	=I23*\$G\$52	=J23*\$G\$52
21			=SUM(B46:B47)	=D25/\$D\$35	=F24+E25	=D24*\$G\$53	=D24*\$G\$53	=G24*\$G\$53	=H24*\$G\$53	=I24*\$G\$53	=J24*\$G\$53
22			=SUM(B48:B49)	=D26/\$D\$35	=F25+E26	=D25*\$G\$53	=D25*\$G\$53	=G25*\$G\$53	=H25*\$G\$53	=I25*\$G\$53	=J25*\$G\$53
23			=SUM(B50:B51)	=D27/\$D\$35	=F26+E27	=D26*\$G\$53	=D26*\$G\$53	=G26*\$G\$53	=H26*\$G\$53	=I26*\$G\$53	=J26*\$G\$53
24			=SUM(B52:B53)	=D28/\$D\$35	=F27+E28	=D27*\$G\$53	=D27*\$G\$53	=G27*\$G\$53	=H27*\$G\$53	=I27*\$G\$53	=J27*\$G\$53
25			=SUM(B54:B55)	=D29/\$D\$35	=F28+E29	=D28*\$G\$53	=D28*\$G\$53	=G28*\$G\$53	=H28*\$G\$53	=I28*\$G\$53	=J28*\$G\$53
26			=SUM(B56:B57)	=D30/\$D\$35	=F29+E30	=D29*\$G\$53	=D29*\$G\$53	=G29*\$G\$53	=H29*\$G\$53	=I29*\$G\$53	=J29*\$G\$53
27			=SUM(B58:B59)	=D31/\$D\$35	=F30+E31	=D30*\$G\$53	=D30*\$G\$53	=G30*\$G\$53	=H30*\$G\$53	=I30*\$G\$53	=J30*\$G\$53
28			=SUM(B60:B61)	=D32/\$D\$35	=F31+E32	=D31*\$G\$53	=D31*\$G\$53	=G31*\$G\$53	=H31*\$G\$53	=I31*\$G\$53	=J31*\$G\$53
29			=SUM(B62:B63)	=D33/\$D\$35	=F32+E33	=D32*\$G\$53	=D32*\$G\$53	=G32*\$G\$53	=H32*\$G\$53	=I32*\$G\$53	=J32*\$G\$53
30			=SUM(B64:B65)	=D34/\$D\$35	=F33+E34	=D33*\$G\$53	=D33*\$G\$53	=G33*\$G\$53	=H33*\$G\$53	=I33*\$G\$53	=J33*\$G\$53
TOTALS	=SUM(B4:B34)	=SUM(C4:C34)	=SUM(D4:D34)			=SUM(G4:G3)	=SUM(H4:H3)	=SUM(I4:I34)	=SUM(J4:J34)	=SUM(K4:K3)	=SUM(L4:L34)
				GROWTH RATES		=G35/D35-1	=H35/D35-1	=I35/G35-1	=J35/H35-1	=K35/I35-1	=L35/J35-1
HMA/YR				Adult Populations		=SUM(G5:G3)	=SUM(H5:H3)	=SUM(I5:I34)	=SUM(J5:J34)	=SUM(K5:K3)	=SUM(L5:L34)
AVERAGE SURVIVAL RATES											
SR @ BIRTH				AGE							
% FEM		# 3-14		CLASS		Average W/ out FC			=AVERAGE(C		
				0		0.67					
AV AGE		#>0		1		0.75	Average W/ FC			=AVERAGE(H	
				2		0.9					
% FEM		% 3-14		3		0.9	INSTRUCTIONS FOR USE: WHBIS is best source for developing a present Distribution. A recent gather can be used and adjusted as needed. The distribution used here should be the POST GATHER TARGET (what do you want left). This plus removals should equal the present distribution. FR can be either calculated from % foals above or supplemented by field observations. Foaling Rates with fertility control (FR w/ IC) are calculated based on the (([100-expected efecacy] X %mares treated)X FR for herd) +(% mares not treated X FR for herd).				
				4		0.9					
% <6		NOTES		5		0.9					
				6		0.9					
% 6-9				7		0.9					
				8		0.9					
% 10 +		Assumes treatment of 1/2 released mares and average survival rates		9		0.9					
FOALING rate w/out IC. Enter .000	0.257			10 -14		0.9					
				15 -19		0.8					
				20+		0.56					

POST GATHER TARGET AGE/SEX DISTRIBUTION AND COMPARATIVE POPULATION PROJECTIONS

AGE	NUMBER FEMALES	NUMBER MALES	NUMBER ANIMALS	% FOR AGE	CUM %	EST Y + 1	W/ IC	EST Y + 2	W/ IC	EST Y+3	W/ IC
0			=SUM(B5:B35)	=D4/\$D\$35	=E4	=SUM(G5:G3)	=SUM(H5:H3)	=SUM(I5:I34)	=SUM(J5:J34)	=SUM(K5:K3)	=SUM(L5:L34)
1			=SUM(B6:B35)	=D5/\$D\$35	=F4+E5	=D4*\$G\$41	=D4*\$G\$41	=G4*\$G\$41	=H4*\$G\$41	=I4*\$G\$41	=J4*\$G\$41
2			=SUM(B7:B35)	=D6/\$D\$35	=F5+E6	=D5*\$G\$42	=D5*\$G\$42	=G5*\$G\$42	=H5*\$G\$42	=I5*\$G\$42	=J5*\$G\$42
3			=SUM(B8:B35)	=D7/\$D\$35	=F6+E7	=D6*\$G\$43	=D6*\$G\$43	=G6*\$G\$43	=H6*\$G\$43	=I6*\$G\$43	=J6*\$G\$43
4			=SUM(B9:B35)	=D8/\$D\$35	=F7+E8	=D7*\$G\$44	=D7*\$G\$44	=G7*\$G\$44	=H7*\$G\$44	=I7*\$G\$44	=J7*\$G\$44
5			=SUM(B10:B35)	=D9/\$D\$35	=F8+E9	=D8*\$G\$45	=D8*\$G\$45	=G8*\$G\$45	=H8*\$G\$45	=I8*\$G\$45	=J8*\$G\$45
6			=SUM(B11:B35)	=D10/\$D\$35	=F9+E10	=D9*\$G\$46	=D9*\$G\$46	=G9*\$G\$46	=H9*\$G\$46	=I9*\$G\$46	=J9*\$G\$46
7			=SUM(B12:B35)	=D11/\$D\$35	=F10+E11	=D10*\$G\$47	=D10*\$G\$47	=G10*\$G\$47	=H10*\$G\$47	=I10*\$G\$47	=J10*\$G\$47
8			=SUM(B13:B35)	=D12/\$D\$35	=F11+E12	=D11*\$G\$48	=D11*\$G\$48	=G11*\$G\$48	=H11*\$G\$48	=I11*\$G\$48	=J11*\$G\$48
9			=SUM(B14:B35)	=D13/\$D\$35	=F12+E13	=D12*\$G\$49	=D12*\$G\$49	=G12*\$G\$49	=H12*\$G\$49	=I12*\$G\$49	=J12*\$G\$49
10			=SUM(B15:B35)	=D14/\$D\$35	=F13+E14	=D13*\$G\$50	=D13*\$G\$50	=G13*\$G\$50	=H13*\$G\$50	=I13*\$G\$50	=J13*\$G\$50
11			=SUM(B16:B35)	=D15/\$D\$35	=F14+E15	=D14*\$G\$51	=D14*\$G\$51	=G14*\$G\$51	=H14*\$G\$51	=I14*\$G\$51	=J14*\$G\$51
12			=SUM(B17:B35)	=D16/\$D\$35	=F15+E16	=D15*\$G\$51	=D15*\$G\$51	=G15*\$G\$51	=H15*\$G\$51	=I15*\$G\$51	=J15*\$G\$51
13			=SUM(B18:B35)	=D17/\$D\$35	=F16+E17	=D16*\$G\$51	=D16*\$G\$51	=G16*\$G\$51	=H16*\$G\$51	=I16*\$G\$51	=J16*\$G\$51
14			=SUM(B19:B35)	=D18/\$D\$35	=F17+E18	=D17*\$G\$51	=D17*\$G\$51	=G17*\$G\$51	=H17*\$G\$51	=I17*\$G\$51	=J17*\$G\$51
15			=SUM(B20:B35)	=D19/\$D\$35	=F18+E19	=D18*\$G\$51	=D18*\$G\$51	=G18*\$G\$51	=H18*\$G\$51	=I18*\$G\$51	=J18*\$G\$51
16			=SUM(B21:B35)	=D20/\$D\$35	=F19+E20	=D19*\$G\$52	=D19*\$G\$52	=G19*\$G\$52	=H19*\$G\$52	=I19*\$G\$52	=J19*\$G\$52
17			=SUM(B22:B35)	=D21/\$D\$35	=F20+E21	=D20*\$G\$52	=D20*\$G\$52	=G20*\$G\$52	=H20*\$G\$52	=I20*\$G\$52	=J20*\$G\$52
18			=SUM(B23:B35)	=D22/\$D\$35	=F21+E22	=D21*\$G\$52	=D21*\$G\$52	=G21*\$G\$52	=H21*\$G\$52	=I21*\$G\$52	=J21*\$G\$52
19			=SUM(B24:B35)	=D23/\$D\$35	=F22+E23	=D22*\$G\$52	=D22*\$G\$52	=G22*\$G\$52	=H22*\$G\$52	=I22*\$G\$52	=J22*\$G\$52
20			=SUM(B25:B35)	=D24/\$D\$35	=F23+E24	=D23*\$G\$52	=D23*\$G\$52	=G23*\$G\$52	=H23*\$G\$52	=I23*\$G\$52	=J23*\$G\$52
21			=SUM(B26:B35)	=D25/\$D\$35	=F24+E25	=D24*\$G\$53	=D24*\$G\$53	=G24*\$G\$53	=H24*\$G\$53	=I24*\$G\$53	=J24*\$G\$53
22			=SUM(B27:B35)	=D26/\$D\$35	=F25+E26	=D25*\$G\$53	=D25*\$G\$53	=G25*\$G\$53	=H25*\$G\$53	=I25*\$G\$53	=J25*\$G\$53
23			=SUM(B28:B35)	=D27/\$D\$35	=F26+E27	=D26*\$G\$53	=D26*\$G\$53	=G26*\$G\$53	=H26*\$G\$53	=I26*\$G\$53	=J26*\$G\$53
24			=SUM(B29:B35)	=D28/\$D\$35	=F27+E28	=D27*\$G\$53	=D27*\$G\$53	=G27*\$G\$53	=H27*\$G\$53	=I27*\$G\$53	=J27*\$G\$53
25			=SUM(B30:B35)	=D29/\$D\$35	=F28+E29	=D28*\$G\$53	=D28*\$G\$53	=G28*\$G\$53	=H28*\$G\$53	=I28*\$G\$53	=J28*\$G\$53
26			=SUM(B31:B35)	=D30/\$D\$35	=F29+E30	=D29*\$G\$53	=D29*\$G\$53	=G29*\$G\$53	=H29*\$G\$53	=I29*\$G\$53	=J29*\$G\$53
27			=SUM(B32:B35)	=D31/\$D\$35	=F30+E31	=D30*\$G\$53	=D30*\$G\$53	=G30*\$G\$53	=H30*\$G\$53	=I30*\$G\$53	=J30*\$G\$53
28			=SUM(B33:B35)	=D32/\$D\$35	=F31+E32	=D31*\$G\$53	=D31*\$G\$53	=G31*\$G\$53	=H31*\$G\$53	=I31*\$G\$53	=J31*\$G\$53
29			=SUM(B34:B35)	=D33/\$D\$35	=F32+E33	=D32*\$G\$53	=D32*\$G\$53	=G32*\$G\$53	=H32*\$G\$53	=I32*\$G\$53	=J32*\$G\$53
30			=SUM(B35:B35)	=D34/\$D\$35	=F33+E34	=D33*\$G\$53	=D33*\$G\$53	=G33*\$G\$53	=H33*\$G\$53	=I33*\$G\$53	=J33*\$G\$53
TOTALS	=SUM(B4:B35)	=SUM(C4:B35)	=SUM(D4:D35)			=SUM(G4:G3)	=SUM(H4:H3)	=SUM(I4:I34)	=SUM(J4:J34)	=SUM(K4:K3)	=SUM(L4:L34)
				GROWTH RATES		=G35/D35-1	=H35/D35-1	=I35/G35-1	=J35/H35-1	=K35/I35-1	=L35/J35-1
HMA/YR				Adult Populations		=SUM(G5:G3)	=SUM(H5:H3)	=SUM(I5:I34)	=SUM(J5:J34)	=SUM(K5:K3)	=SUM(L5:L34)
				AVERAGE SURVIVAL RATES							
SR @ BIRTH					AGE						
% FEM		# 3-14			CLASS	RATE	Average W/ out FC		=AVERAGE(C		
						0 0.75					
AV AGE		#>0				1 0.85	Average W/ FC		=AVERAGE(H		
						2 0.96					
% FEM		% 3-14				3 0.96	INSTRUCTIONS FOR USE: WHBIS is best source for developing a present Distribution. A recent gather can be used and adjusted as needed. The distribution used here should be the POST GATHER TARGET (what do you want left). This plus removals should equal the present distribution. FR can be either calculated from % foals above or supplemented by Field observations. Foaling Rates with fertility control (FR w/ IC) are calculated based on the ((100-expected efecacy) X %mares treated)X FR for herd) + (% mares not treated X FR for herd).				
						4 0.96					
% <6		NOTES				5 0.96					
						6 0.96					
% 6-9						7 0.9					
						8 0.9					
% 10 +						9 0.9					
FOALING rate w/out IC. Enter .000			Y+1 FR w/ IC (.000)		10 -14	0.82					
			Y+2 FR w/ IC (.000)		15 -19	0.58					
			Y+3 FR w/ IC (.000)		20+	0.58					

AGE/SEX DISTRIBUTION								
AGE	NUMBER FEMALES	NUMBER MALES	NUMBER OF ANIMALS	PER CENT FOR AGE	CUMULATIVE PER CENT			
0	53	47	100	9.4%	9.4%			
1	91	76	167	15.7%	25.1%			
2	92	71	163	15.3%	40.5%			
3	65	36	101	9.5%	50.0%			
4	62	56	118	11.1%	61.1%			
5	19	15	34	3.2%	64.3%			
6	31	37	68	6.4%	70.6%			
7	38	32	70	6.6%	77.2%			
8	30	22	52	4.9%	82.1%			
9	17	16	33	3.1%	85.2%			
10	10	11	21	2.0%	87.2%			
11	15	15	30	2.8%	90.0%			
12	22	35	57	5.4%	95.4%			
13	6	11	17	1.6%	97.0%			
14	1	6	7	0.7%	97.6%			
15	3	5	8	0.8%	98.4%			
16	2	2	4	0.4%	98.8%			
17		4	4	0.4%	99.2%			
18	4		4	0.4%	99.5%			
19		1	1	0.1%	99.6%			
20	2	2	4	0.4%	100.0%			
21			0	0.0%	100.0%			
22			0	0.0%	100.0%			
23			0	0.0%	100.0%			
24			0	0.0%	100.0%			
25			0	0.0%	100.0%			
26			0	0.0%	100.0%			
27			0	0.0%	100.0%			
28			0	0.0%	100.0%			
29			0	0.0%	100.0%			
30			0	0.0%	100.0%			
TOTALS	563	500	1063					
HMA	Seven Lakes		YEAR	Multiple				
SR @ BIRTH								
(% FEMALE)	53%	# FEM 3-14	316					
AV AGE	4.8	#>0	963					
% FEMALE	53%	% FEM 3-14	30%					
% <6	64%	NOTES						
% 6-9	21%							
% 10 +	15%							

AGE/SEX DISTRIBUTION					
	NUMBER	NUMBER	NUMBER	PER CENT	CUMULATIVE
AGE	FEMALES	MALES	OF ANIMALS	FOR AGE	PER CENT
0	41	42	83	22.7%	22.7%
1	27	29	56	15.3%	38.1%
2	20	22	42	11.5%	49.6%
3	17	19	36	9.9%	59.5%
4	14	17	31	8.5%	67.9%
5	0	2	2	0.5%	68.5%
6	9	10	19	5.2%	73.7%
7	9	11	20	5.5%	79.2%
8	6	7	13	3.6%	82.7%
9	8	8	16	4.4%	87.1%
10	2	3	5	1.4%	88.5%
11	1	3	4	1.1%	89.6%
12	2	5	7	1.9%	91.5%
13	1	5	6	1.6%	93.2%
14		4	4	1.1%	94.2%
15	1	2	3	0.8%	95.1%
16		4	4	1.1%	96.2%
17	1	5	6	1.6%	97.8%
18		2	2	0.5%	98.4%
19		2	2	0.5%	98.9%
20		2	2	0.5%	99.5%
21		2	2	0.5%	100.0%
22			0	0.0%	100.0%
23			0	0.0%	100.0%
24			0	0.0%	100.0%
25			0	0.0%	100.0%
26			0	0.0%	100.0%
27			0	0.0%	100.0%
28			0	0.0%	100.0%
29			0	0.0%	100.0%
30			0	0.0%	100.0%
TOTALS	159	206	365		
HMA	Stewart Creek		YEAR	2006	
SR @ BIRTH					
(% FEM)	49%	# FEM 3-14	69		
AV AGE	4.5	#>0	282		
% FEM	44%	% FEM 3-14	19%		
% <6	68%	NOTES			
% 6-9	19%	pre gather estimate			
% 10 +	13%				

AGE/SEX DISTRIBUTION									
	NUMBER	NUMBER	NUMBER	PER CENT	CUMULATIVE				
AGE	FEMALES	MALES	OF ANIMALS	FOR AGE	PER CENT				
0			0	0.0%	0.0%				
1	32	23	55	18.0%	18.0%				
2	30	26	56	18.3%	36.3%				
3	20	16	36	11.8%	48.0%				
4	19	14	33	10.8%	58.8%				
5	5	3	8	2.6%	61.4%				
6	10	9	19	6.2%	67.6%				
7	11	9	20	6.5%	74.2%				
8	8	7	15	4.9%	79.1%				
9	2	6	8	2.6%	81.7%				
10	2	4	6	2.0%	83.7%				
11	1	1	2	0.7%	84.3%				
12	6	13	19	6.2%	90.5%				
13	4	3	7	2.3%	92.8%				
14		2	2	0.7%	93.5%				
15	3	5	8	2.6%	96.1%				
16	2	2	4	1.3%	97.4%				
17			0	0.0%	97.4%				
18	2		2	0.7%	98.0%				
19		1	1	0.3%	98.4%				
20	2	3	5	1.6%	100.0%				
21			0	0.0%	100.0%				
22			0	0.0%	100.0%				
23			0	0.0%	100.0%				
24			0	0.0%	100.0%				
25			0	0.0%	100.0%				
26			0	0.0%	100.0%				
27			0	0.0%	100.0%				
28			0	0.0%	100.0%				
29			0	0.0%	100.0%				
30			0	0.0%	100.0%				
TOTALS	159	147	306						
HMA	Stewart Creek		YEAR	2002					
SR @ BIRTH									
(% FEMALE)	#DIV/0!	# FEM 3-14	88						
AV AGE	5.4	#>0	306						
% FEMALE	52%	% FEM 3-14	29%						
% <6	61%	NOTES							
% 6-9	20%	Contract gather in March							
% 10 +	18%								

AGE/SEX DISTRIBUTION								
AGE	NUMBER FEMALES	NUMBER MALES	NUMBER OF ANIMALS	PER CENT FOR AGE	CUMULATIVE PER CENT			
0	11	9	20	13.8%	13.8%			
1	10	9	19	13.1%	26.9%			
2	9	7	16	11.0%	37.9%			
3	8	6	14	9.7%	47.6%			
4	7	6	13	9.0%	56.6%			
5	4	6	10	6.9%	63.4%			
6	4	6	10	6.9%	70.3%			
7	3	4	7	4.8%	75.2%			
8	3	4	7	4.8%	80.0%			
9	3	3	6	4.1%	84.1%			
10	7	8	15	10.3%	94.5%			
11			0	0.0%	94.5%			
12			0	0.0%	94.5%			
13			0	0.0%	94.5%			
14			0	0.0%	94.5%			
15	1	1	2	1.4%	95.9%			
16			0	0.0%	95.9%			
17			0	0.0%	95.9%			
18			0	0.0%	95.9%			
19			0	0.0%	95.9%			
20	2	4	6	4.1%	100.0%			
21			0	0.0%	100.0%			
22			0	0.0%	100.0%			
23			0	0.0%	100.0%			
24			0	0.0%	100.0%			
25			0	0.0%	100.0%			
26			0	0.0%	100.0%			
27			0	0.0%	100.0%			
28			0	0.0%	100.0%			
29			0	0.0%	100.0%			
30			0	0.0%	100.0%			
TOTALS	72	73	145					
HMA	Stewart Creek		YEAR 06					
SR @ BIRTH								
(% FEMALE)	55%	# FEM 3-14	39					
AV AGE	5.1	#>0	125					
% FEMALE	50%	% FEM 3-14	27%					
% <6	63%	NOTES						
% 6-9	21%							
% 10 +	16%							

POST GATHER TARGET AGE/SEX DISTRIBUTION AND COMPARATIVE POPULATION PROJECTIONS											
	NUMBER	NUMBER	NUMBER	%	CUM	EST	W/	EST	W/	EST	W/
AGE	FEMALES	MALES	ANIMALS	FOR AGE	%	Y + 1	IC	Y + 2	IC	Y+3	IC
0	11	9	20	13.8%	13.8%	40	40	45	25	52	27
1	10	9	19	13.1%	26.9%	14	14	28	28	32	17
2	9	7	16	11.0%	37.9%	16	16	12	12	24	24
3	8	6	14	9.7%	47.6%	15	15	16	16	11	11
4	7	6	13	9.0%	56.6%	13	13	15	15	15	15
5	4	6	10	6.9%	63.4%	12	12	13	13	14	14
6	4	6	10	6.9%	70.3%	10	10	12	12	12	12
7	3	4	7	4.8%	75.2%	10	10	9	9	12	12
8	3	4	7	4.8%	80.0%	7	7	9	9	9	9
9	3	3	6	4.1%	84.1%	7	7	6	6	9	9
10	7	8	15	10.3%	94.5%	6	6	6	6	6	6
11			0	0.0%	94.5%	14	14	5	5	6	6
12			0	0.0%	94.5%	0	0	12	12	5	5
13			0	0.0%	94.5%	0	0	0	0	11	11
14			0	0.0%	94.5%	0	0	0	0	0	0
15	1	1	2	1.4%	95.9%	0	0	0	0	0	0
16			0	0.0%	95.9%	2	2	0	0	0	0
17			0	0.0%	95.9%	0	0	1	1	0	0
18			0	0.0%	95.9%	0	0	0	0	1	1
19			0	0.0%	95.9%	0	0	0	0	0	0
20	2	4	6	4.1%	100.0%	0	0	0	0	0	0
21			0	0.0%	100.0%	3	3	0	0	0	0
22			0	0.0%	100.0%	0	0	2	2	0	0
23			0	0.0%	100.0%	0	0	0	0	1	1
24			0	0.0%	100.0%	0	0	0	0	0	0
25			0	0.0%	100.0%	0	0	0	0	0	0
26			0	0.0%	100.0%	0	0	0	0	0	0
27			0	0.0%	100.0%	0	0	0	0	0	0
28			0	0.0%	100.0%	0	0	0	0	0	0
29			0	0.0%	100.0%	0	0	0	0	0	0
30			0	0.0%	100.0%	0	0	0	0	0	0
TOTALS	72	73	145			168	168	192	171	219	180
				GROWTH RATES		16%	16%	14%	2%	14%	5%
HMA/YR	Stewart Creek/06			Adult Populations		128	128	147	147	167	153
	AVERAGE SURVIVAL RATES										
SR @ BIRTH				AGE							
% FEM	55%	# 3-14	33%	CLASS		Average W/ out FC			147		
				0		0.700					
AV AGE	3	#>0	12	1		0.850	Average W/ FC			142	
				2		0.960					
% FEM	50%	% 3-14	27%	3		0.960	INSTRUCTIONS FOR USE: WHBIS is best source for developing a present Distribution. A recent gather can be used and adjusted as needed. The distribution used here should be the POST GATHER TARGET (what do you want left). This plus removals should equal the present distribution. FR can be either calculated from % foals above or supplemented by Field observations. Foaling Rates with fertility control (FR w/ IC) are calculated based on the ([100-expected efecacy] X %mares treated)X FR for herd) +(% mares not treated X FR for herd).				
				4		0.960					
% <6	53%	NOTES		5		0.960					
				6		0.960					
% 6-9	21%	Assumes treatment of 1/2 released mares and average survival rates		7		0.960					
				8		0.960					
% 10 +	13%			9		0.960					
FOALING rate w/out IC. Enter .000	31%	31.00%		10 -14		0.900					
		16.90%		15 -19		0.760					
		18.00%		20+		0.560					

AGE/SEX DISTRIBUTION					
	NUMBER	NUMBER	NUMBER	PER CENT	CUMULATIVE
AGE	FEMALES	MALES	OF ANIMALS	FOR AGE	PER CENT
0	34	36	70	24.1%	24.1%
1	20	22	42	14.5%	38.6%
2	15	16	31	10.7%	49.3%
3	13	14	27	9.3%	58.6%
4	11	12	23	7.9%	66.6%
5	2	7	9	3.1%	69.7%
6	7	7	14	4.8%	74.5%
7	8	8	16	5.5%	80.0%
8	5	5	10	3.4%	83.4%
9	6	6	12	4.1%	87.6%
10	2	2	4	1.4%	89.0%
11	1	2	3	1.0%	90.0%
12	2	4	6	2.1%	92.1%
13	2	3	5	1.7%	93.8%
14	1	2	3	1.0%	94.8%
15	1	1	2	0.7%	95.5%
16	1	2	3	1.0%	96.6%
17	2	4	6	2.1%	98.6%
18		1	1	0.3%	99.0%
19		1	1	0.3%	99.3%
20		1	1	0.3%	99.7%
21		1	1	0.3%	100.0%
22			0	0.0%	100.0%
23			0	0.0%	100.0%
24			0	0.0%	100.0%
25			0	0.0%	100.0%
26			0	0.0%	100.0%
27			0	0.0%	100.0%
28			0	0.0%	100.0%
29			0	0.0%	100.0%
30			0	0.0%	100.0%
TOTALS	133	157	290		
HMA	Lost Creek		YEAR	2006	
SR @ BIRTH					
(% FEM)	49%	# FEM 3-14	60		
AV AGE	4.4	#>0	220		
% FEM	46%	% FEM 3-14	21%		
% <6	70%	NOTES			
% 6-9	18%	pre gather estimate			
% 10 +	12%				

AGE/SEX DISTRIBUTION									
AGE	NUMBER FEMALES	NUMBER MALES	NUMBER OF ANIMALS	PER CENT FOR AGE	CUMULATIVE PER CENT				
0	3	2	5	4.7%	4.7%				
1	8	7	15	14.2%	18.9%				
2	7	6	13	12.3%	31.1%				
3	6	5	11	10.4%	41.5%				
4	5	5	10	9.4%	50.9%				
5	3	5	8	7.5%	58.5%				
6	3	5	8	7.5%	66.0%				
7	2	4	6	5.7%	71.7%				
8	2	3	5	4.7%	76.4%				
9	2	3	5	4.7%	81.1%				
10	5	7	12	11.3%	92.5%				
11			0	0.0%	92.5%				
12			0	0.0%	92.5%				
13			0	0.0%	92.5%				
14			0	0.0%	92.5%				
15	1	1	2	1.9%	94.3%				
16			0	0.0%	94.3%				
17			0	0.0%	94.3%				
18			0	0.0%	94.3%				
19			0	0.0%	94.3%				
20	2	4	6	5.7%	100.0%				
21			0	0.0%	100.0%				
22			0	0.0%	100.0%				
23			0	0.0%	100.0%				
24			0	0.0%	100.0%				
25			0	0.0%	100.0%				
26			0	0.0%	100.0%				
27			0	0.0%	100.0%				
28			0	0.0%	100.0%				
29			0	0.0%	100.0%				
30			0	0.0%	100.0%				
TOTALS	49	57	106						
HMA	Lost Creek		YEAR 06						
SR @ BIRTH									
(% FEMALE)	60%	# FEM 3-14	28						
AV AGE	5.7	#>0	101						
% FEMALE	46%	% FEM 3-14	26%						
% <6	58%	NOTES							
% 6-9	23%								
% 10 +	19%								

AGE/SEX DISTRIBUTION										
	NUMBER	NUMBER	TOTAL	%	CUM	EST	EST	EST	EST	EST
AGE	FEMALES	MALES	ANIMALS	AGE	%	YR + 1	Y+ 2	Y+3	Y+4	Y+5
0	3	2	5	4.7%	4.7%	30	34	38	44	50
1	8	7	15	14.2%	18.9%	4	21	24	27	31
2	7	6	13	12.3%	31.1%	13	3	18	20	23
3	6	5	11	10.4%	41.5%	12	12	3	17	19
4	5	5	10	9.4%	50.9%	11	12	12	3	16
5	3	5	8	7.5%	58.5%	10	10	12	11	3
6	3	5	8	7.5%	66.0%	8	9	10	11	1
7	2	4	6	5.7%	71.7%	8	7	9	9	11
8	2	3	5	4.7%	76.4%	6	7	7	8	9
9	2	3	5	4.7%	81.1%	5	6	7	7	8
10	5	7	12	11.3%	92.5%	5	5	5	7	7
11			0	0.0%	92.5%	11	4	4	5	6
12			0	0.0%	92.5%	0	10	4	4	4
13			0	0.0%	92.5%	0	0	9	3	3
14			0	0.0%	92.5%	0	0	0	8	3
15	1	1	2	1.9%	94.3%	0	0	0	0	7
16			0	0.0%	94.3%	2	0	0	0	0
17			0	0.0%	94.3%	0	1	0	0	0
18			0	0.0%	94.3%	0	0	1	0	0
19			0	0.0%	94.3%	0	0	0	1	0
20	2	4	6	5.7%	100.0%	0	0	0	0	1
21			0	0.0%	100.0%	3	0	0	0	0
22			0	0.0%	100.0%	0	2	0	0	0
23			0	0.0%	100.0%	0	0	1	0	0
24			0	0.0%	100.0%	0	0	0	1	0
25			0	0.0%	100.0%	0	0	0	0	0
26			0	0.0%	100.0%	0	0	0	0	0
27			0	0.0%	100.0%	0	0	0	0	0
28			0	0.0%	100.0%	0	0	0	0	0
29			0	0.0%	100.0%	0	0	0	0	0
30			0	0.0%	100.0%	0	0	0	0	0
TOTA	49	57	106			125	143	163	185	212
					GROWTH %	18%	15%	14%	14%	14%
HMA	Lost Creek		YEAR	6						
					AVERAGE SURVIVAL RATES					
SR @ BIRTH					AGE CLASS					
% FE	60%	# 3-14	28							
					0	0.700				
AV A	5.7	#>0	101		1	0.850				
					2	0.960				
% FE	46%	% 3-14	26%		3	0.960				
					4	0.960				
% <6	58%	NOTES			5	0.960				
					6	0.960				
% 6-9	23%				7	0.960				
					8	0.960				
% 10	19%	Level Proposed in GP			9	0.960				
					10 -14	0.900				
FOALIN	31%				15 -19	0.760				
					20+	0.560				

AGE/SEX DISTRIBUTION											
	NUMBER	NUMBER	TOTAL	%	CUM	EST	EST	EST	EST	EST	
AGE	FEMALES	MALES	ANIMALS	AGE	%	YR + 1	Y+ 2	Y+3	Y+4	Y+5	
0	3	2	5	4.7%	4.7%	29	33	37	41	46	
1	8	6	14	13.2%	17.9%	4	20	23	26	29	
2	6	4	10	9.4%	27.4%	12	3	17	20	22	
3	6	4	10	9.4%	36.8%	10	11	3	17	19	
4	5	3	8	7.5%	44.3%	10	9	11	3	16	
5	3	2	5	4.7%	49.1%	8	9	9	11	3	
6	3	2	5	4.7%	53.8%	5	7	9	8	10	
7	3	2	5	4.7%	58.5%	5	5	7	8	8	
8	2	2	4	3.8%	62.3%	5	5	4	7	8	
9	2	2	4	3.8%	66.0%	4	5	4	4	7	
10	2	2	4	3.8%	69.8%	4	4	4	4	4	
11	1	2	3	2.8%	72.6%	4	3	3	4	4	
12	2	4	6	5.7%	78.3%	3	3	3	3	4	
13	2	3	5	4.7%	83.0%	5	2	3	3	3	
14	1	2	3	2.8%	85.8%	5	5	2	3	3	
15	1	1	2	1.9%	87.7%	3	4	4	2	2	
16	1	2	3	2.8%	90.6%	2	2	3	3	1	
17	2	4	6	5.7%	96.2%	2	1	2	2	3	
18		1	1	0.9%	97.2%	5	2	1	1	2	
19		1	1	0.9%	98.1%	1	3	1	1	1	
20		1	1	0.9%	99.1%	1	1	3	1	1	
21		1	1	0.9%	100.0%	1	0	0	1	1	
22			0	0.0%	100.0%	1	0	0	0	1	
23			0	0.0%	100.0%	0	0	0	0	0	
24			0	0.0%	100.0%	0	0	0	0	0	
25			0	0.0%	100.0%	0	0	0	0	0	
26			0	0.0%	100.0%	0	0	0	0	0	
27			0	0.0%	100.0%	0	0	0	0	0	
28			0	0.0%	100.0%	0	0	0	0	0	
29			0	0.0%	100.0%	0	0	0	0	0	
30			0	0.0%	100.0%	0	0	0	0	0	
TOTALS	53	53	106			123	139	155	173	195	
	Begin 1 yr or> POP		101		GROWTH %	16%	13%	12%	12%	12%	
HMA			YEAR		POP	94	106	119	132	149	
					AVERAGE SURVIVAL RATES						
SR @ BIRTH					AGE						
% FEM	60%	# 3-14	32		CLASS	RATE					
					0	0.700					
AV AGE	7.3	#>0	101		1	0.850					
					2	0.960					
% FEM	50%	% 3-14	30%		3	0.960					
					4	0.960					
% <6	49%	NOTES			5	0.960					
		no sale eligible removed			6	0.960					
% 6-9	17%					7	0.960				
						8	0.960				
% 10 +	34%					9	0.960				
					10 -14	0.900					
FOALING %	31%				15 -19	0.760					
					20+	0.560					

AGE/SEX DISTRIBUTION										
	NUMBER	NUMBER	TOTAL	%	CUM	EST	EST	EST	EST	EST
AGE	FEMALES	MALES	ANIMALS	AGE	%	YR + 1	Y+ 2	Y+3	Y+4	Y+5
0	3	2	5	4.7%	4.7%	30	34	39	45	51
1	10	8	18	17.0%	21.7%	4	21	24	27	31
2	8	7	15	14.2%	35.8%	15	3	18	20	23
3	6	6	12	11.3%	47.2%	14	15	3	17	20
4	5	6	11	10.4%	57.5%	12	14	14	3	16
5	3	5	8	7.5%	65.1%	11	11	13	14	3
6	3	5	8	7.5%	72.6%	8	10	11	13	13
7	2	4	6	5.7%	78.3%	8	7	10	10	12
8	2	3	5	4.7%	83.0%	6	7	7	9	10
9	2	3	5	4.7%	87.7%	5	6	7	7	9
10	3	4	7	6.6%	94.3%	5	5	5	7	7
11			0	0.0%	94.3%	6	4	4	5	6
12			0	0.0%	94.3%	0	6	4	4	4
13			0	0.0%	94.3%	0	0	5	3	3
14			0	0.0%	94.3%	0	0	0	5	3
15			0	0.0%	94.3%	0	0	0	0	4
16			0	0.0%	94.3%	0	0	0	0	0
17			0	0.0%	94.3%	0	0	0	0	0
18			0	0.0%	94.3%	0	0	0	0	0
19			0	0.0%	94.3%	0	0	0	0	0
20	2	4	6	5.7%	100.0%	0	0	0	0	0
21			0	0.0%	100.0%	3	0	0	0	0
22			0	0.0%	100.0%	0	2	0	0	0
23			0	0.0%	100.0%	0	0	1	0	0
24			0	0.0%	100.0%	0	0	0	1	0
25			0	0.0%	100.0%	0	0	0	0	0
26			0	0.0%	100.0%	0	0	0	0	0
27			0	0.0%	100.0%	0	0	0	0	0
28			0	0.0%	100.0%	0	0	0	0	0
29			0	0.0%	100.0%	0	0	0	0	0
30			0	0.0%	100.0%	0	0	0	0	0
TOTA	49	57	106			125	144	165	189	216
					GROWTH %	18%	15%	14%	14%	14%
HMA	Lost Creek		YEAR	6						
					AVERAGE SURVIVAL RATES					
SR @ BIRTH					AGE CLASS					
% FE	60%	# 3-14	26							
					0	0.700				
AV A	5.1	#>0	101		1	0.850				
					2	0.960				
% FE	46%	% 3-14	25%		3	0.960				
					4	0.960				
% <6	65%	NOTES			5	0.960				
					6	0.960				
% 6-9	23%				7	0.960				
					8	0.960				
% 10	12%	Remove all 13-18			9	0.960				
					10 -14	0.900				
FOALIN	31%				15 -19	0.760				
					20+	0.560				